

APPENDIX C TO PART 173—PROCEDURE FOR  
BASE-LEVEL VIBRATION TESTING

APPENDIX D TO PART 173—TEST METHODS FOR  
DYNAMITE (EXPLOSIVE, BLASTING, TYPE  
A)

APPENDIXES E–G TO PART 173 [RESERVED]

APPENDIX H TO PART 173—METHOD OF TEST-  
ING FOR SUSTAINED COMBUSTIBILITY

AUTHORITY: 49 U.S.C. 5101–5127, 44701; 49  
CFR 1.45, 1.53.

EDITORIAL NOTE: Nomenclature changes to  
part 173 appear at 70 FR 56098, Sept. 23, 2005.

### Subpart A—General

#### § 173.1 Purpose and scope.

(a) This part includes:

(1) Definitions of hazardous materials  
for transportation purposes;

(2) Requirements to be observed in  
preparing hazardous materials for ship-  
ment by air, highway, rail, or water, or  
any combination thereof; and

(3) Inspection, testing, and retesting  
responsibilities for persons who retest,  
recondition, maintain, repair and re-  
build containers used or intended for  
use in the transportation of hazardous  
materials.

(b) A shipment of hazardous mate-  
rials that is not prepared in accordance  
with this subchapter may not be of-  
fered for transportation by air, high-  
way, rail, or water. It is the responsi-  
bility of each hazmat employer subject  
to the requirements of this subchapter  
to ensure that each hazmat employee  
is trained in accordance with the re-  
quirements prescribed in this sub-  
chapter. It is the duty of each person  
who offers hazardous materials for  
transportation to instruct each of his

officers, agents, and employees having  
any responsibility for preparing haz-  
ardous materials for shipment as to ap-  
plicable regulations in this subchapter.

(c) In general, the Hazardous Mate-  
rials Regulations (HMR) contained in  
this subchapter are based on the UN  
Recommendations and are consistent  
with international regulations issued  
by the International Civil Aviation Or-  
ganization (ICAO Technical Instruc-  
tions) and the International Maritime  
Organization (IMDG Code). However,  
the HMR are not consistent in all re-  
spects with the UN Recommendations,  
the ICAO Technical Instructions or the  
IMDG Code, and compliance with the  
HMR will not guarantee acceptance by  
regulatory bodies outside of the United  
States.

[Amdt. 173–94, 41 FR 16062, Apr. 15, 1976, as  
amended by Amdt. 173–100, 41 FR 40476, Sept.  
20, 1976; Amdt. 173–161, 48 FR 2655, Jan. 20,  
1983; Amdt. 173–224, 55 FR 52606, Dec. 21, 1990;  
Amdt. 173–231, 57 FR 20953, May 15, 1992; 64  
FR 10776, Mar. 5, 1999; 68 FR 61941, Oct. 30,  
2003]

#### § 173.2 Hazardous materials classes and index to hazard class defini- tions.

The hazard class of a hazardous ma-  
terial is indicated either by its class  
(or division) number, its class name, or  
by the letters “ORM-D”. The following  
table lists class numbers, division num-  
bers, class or division names and those  
sections of this subchapter which con-  
tain definitions for classifying haz-  
ardous materials, including forbidden  
materials.

Class No.	Division No. (if any)	Name of class or division	49 CFR ref- erence for definitions
None	.....	Forbidden materials .....	173.21
None	.....	Forbidden explosives .....	173.54
1	1.1	Explosives (with a mass explosion hazard) .....	173.50
1	1.2	Explosives (with a projection hazard) .....	173.50
1	1.3	Explosives (with predominately a fire hazard) .....	173.50
1	1.4	Explosives (with no significant blast hazard) .....	173.50
1	1.5	Very insensitive explosives; blasting agents .....	173.50
1	1.6	Extremely insensitive detonating substances .....	173.50
2	2.1	Flammable gas .....	173.115
2	2.2	Non-flammable compressed gas .....	173.115
2	2.3	Poisonous gas .....	173.115
3	.....	Flammable and combustible liquid .....	173.120
4	4.1	Flammable solid .....	173.124
4	4.2	Spontaneously combustible material .....	173.124
4	4.3	Dangerous when wet material .....	173.124
5	5.1	Oxidizer .....	173.127
5	5.2	Organic peroxide .....	173.128
6	6.1	Poisonous materials .....	173.132

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Class No.	Division No. (if any)	Name of class or division	49 CFR reference for definitions
6	6.2	Infectious substance (Etiologic agent) .....	173.134
7	.....	Radioactive material .....	173.403
8	.....	Corrosive material .....	173.136
9	.....	Miscellaneous hazardous material .....	173.140
None	.....	Other regulated material: ORM-D .....	173.144

[Amdt. 173–224, 55 FR 52606, Dec. 21, 1990, as amended at 57 FR 45460, Oct. 1, 1992; Amdt. 173–234, 58 FR 51531, Oct. 1, 1993]

**§ 173.2a Classification of a material having more than one hazard.**

(a) *Classification of a material having more than one hazard.* Except as provided in paragraph (c) of this section, a material not specifically listed in the §172.101 table that meets the definition of more than one hazard class or division as defined in this part, shall be classed according to the highest applicable hazard class of the following hazard classes, which are listed in descending order of hazard:

- (1) Class 7 (radioactive materials, other than limited quantities).
- (2) Division 2.3 (poisonous gases).
- (3) Division 2.1 (flammable gases).
- (4) Division 2.2 (nonflammable gases).
- (5) Division 6.1 (poisonous liquids), Packing Group I, poisonous-by-inhalation only.
- (6) A material that meets the definition of a pyrophoric material in §173.124(b)(1) of this subchapter (Division 4.2).

(7) A material that meets the definition of a self-reactive material in §173.124(a)(2) of this subchapter (Division 4.1).

(8) Class 3 (flammable liquids), Class 8 (corrosive materials), Division 4.1 (flammable solids), Division 4.2 (spontaneously combustible materials), Division 4.3 (dangerous when wet materials), Division 5.1 (oxidizers) or Division 6.1 (poisonous liquids or solids other than Packing Group I, poisonous-by-inhalation). The hazard class and packing group for a material meeting more than one of these hazards shall be determined using the precedence table in paragraph (b) of this section.

- (9) Combustible liquids.
- (10) Class 9 (miscellaneous hazardous materials).

(b) *Precedence of hazard table for Classes 3 and 8 and Divisions 4.1, 4.2, 4.3, 5.1 and 6.1.* The following table ranks those materials that meet the definition of Classes 3 and 8 and Divisions 4.1, 4.2, 4.3, 5.1 and 6.1:

PRECEDENCE OF HAZARD TABLE  
[ Hazard class or division and packing group ]

	4.2	4.3	5.1 I <sup>1</sup>	5.1 II <sup>1</sup>	5.1 III <sup>1</sup>	6.1, I dermal	6.1, I oral	6.1 II	6.1 III	8, I liquid	8, I solid	8, II liquid	8, II solid	8, III liquid	8, III solid
3 I <sup>2</sup> .....	.....	4.3	.....	.....	.....	3	3	3	3	3	(3)	3	(3)	3	(3)
3 II <sup>2</sup> .....	.....	4.3	.....	.....	.....	3	3	3	3	8	(3)	3	(3)	3	(3)
3 III <sup>2</sup> .....	.....	4.3	.....	.....	.....	6.1	6.1	6.1	3 <sup>4</sup>	8	(3)	8	(3)	3	(3)
4.1 II <sup>2</sup> .....	4.2	4.3	5.1	4.1	4.1	6.1	6.1	4.1	4.1	(3)	8	(3)	4.1	(3)	4.1
4.1 III <sup>2</sup> .....	4.2	4.3	5.1	4.1	4.1	6.1	6.1	6.1	4.1	(3)	8	(3)	8	(3)	4.1
4.2 II .....	.....	4.3	5.1	4.2	4.2	6.1	6.1	4.2	4.2	8	8	4.2	4.2	4.2	4.2
4.2 III .....	.....	4.3	5.1	5.1	4.2	6.1	6.1	6.1	4.2	8	8	8	8	4.2	4.2
4.3 I .....	.....	.....	5.1	4.3	4.3	6.1	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
4.3 II .....	.....	.....	5.1	4.3	4.3	6.1	4.3	4.3	4.3	8	8	4.3	4.3	4.3	4.3
4.3 III .....	.....	.....	5.1	5.1	4.3	6.1	6.1	6.1	4.3	8	8	8	8	4.3	4.3
5.1 I <sup>1</sup> .....	.....	.....	.....	.....	.....	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
5.1 II <sup>1</sup> .....	.....	.....	.....	.....	.....	6.1	5.1	5.1	5.1	8	8	5.1	5.1	5.1	5.1
5.1 III <sup>1</sup> .....	.....	.....	.....	.....	.....	6.1	6.1	6.1	5.1	8	8	8	8	5.1	5.1
6.1 I, Dermal .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	6.1	6.1	6.1	6.1	6.1
6.1 I, Oral .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	6.1	6.1	6.1	6.1	6.1
6.1 II, Inhalation .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	6.1	6.1	6.1	6.1	6.1
6.1 II, Dermal .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	6.1	8	6.1	6.1	6.1
6.1 II, Oral .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	8	8	6.1	6.1	6.1